Amendment to the Claims:

This listing of claims will replace all versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-61 (Cancelled)

62. (New):   A method of network management comprising:

providing a central controller for controlling network access of a first access point having a respective first plurality of associated clients and a second access point having a second plurality of associated clients;

monitoring packet angle-of-arrival information to determine a location for the first plurality of clients and the second plurality of clients;

determining a first client selected from the first plurality of associated clients and a second client selected from the second plurality of associated clients that can use a channel concurrently;

controlling the direction of an adaptive antenna array associated with one of the group consisting of the first access point and the second access point to allow simultaneous access between the first client and the second client based on their respective location determined during the monitoring packet angle of arrival information; and

scheduling a time slot with the first access point for the first client and with the second access point for the second client;

wherein the first client and second client use the same time slot and same channel concurrently; and

wherein the controlling the direction uses one of the group consisting of adaptive beam forming and adaptive null forming to compute an orthogonal antenna array pattern.

63. (New): The method of claim 62, further comprising:

monitoring a plurality of network parameters that influence parameters between the first plurality of clients and the first access point and the second plurality of clients and the second access point; and

wherein the step of monitoring network parameters comprises monitoring one of the group consisting of time division, buffering, bandwidth, frequency, space and throughput.

64. (New): The method of claim 62, further comprising:

monitoring network packet collision history; and

adjusting client access to specific time slots based on the packet collision history.

65. (New): The method of claim 62 wherein the step of controlling the direction of an adaptive antenna array further comprises simultaneously managing time by selecting client time division multiple accesses on the first and second access points to allow simultaneous access between potentially interfering clients.

66. (New): A method of network management comprising:

providing a central controller for controlling network access of a first access point having a respective first plurality of associated clients and a second access point having a second plurality of associated clients;

determining a first client selected from the first plurality of associated clients and a second client selected from the second plurality of associated clients that can use a channel concurrently;

scheduling a time slot with the first access point for the first client and with the second access point for the second client;

instructing the first access point to transmit a signal in a desired direction;

detecting the signal using the second access point;

reporting to a main controller received signal strength and direction of arrival detected by the second access point; and

determining a network access topology to reduce multipath interference between the first plurality of clients and the second plurality of clients;

wherein the first client and second client use the same time slot and same channel concurrently.

67. (New): The method of claim 66, further comprising:

monitoring a plurality of network parameters that influence parameters between the first plurality of clients and the first access point and the second plurality of clients and the second access point; and

wherein the step of monitoring network parameters comprises monitoring one of the group consisting of time division, buffering, bandwidth, frequency, space and throughput.

68. (New): The method of claim 66, further comprising:

monitoring network packet collision history; and

adjusting client access to specific time slots based on the packet collision history.

69. (New): A network apparatus comprising a network management system for managing network comprising a first access point having a respective first plurality of associated clients and a second access point having a second plurality of associated clients, the management system comprising:

a machine-implemented algorithm for monitoring a plurality of performance-related network parameters between the first plurality of clients, the second plurality of clients and the network, and outputting instructions for varying at least one of the network parameters;

wherein the machine implemented algorithm is responsive to monitoring the plurality of performance-related network parameters to determine a first client selected from the first plurality of associated and a second client selected from the second plurality of associated client that can use a channel concurrently;

a processor for regulating access of the first plurality of clients and second plurality of clients according to the algorithm's outputted instructions, to schedule a time slot with the first access point for the first client and the second access point for the second client; and

an algorithm-responsive antenna control for varying position of at least one adaptive directional antenna associated with one of the group consisting of the first access point and the second access point, to alternately select clients from one of the group consisting of the first plurality clients and second plurality of clients for varying at least one network parameter;

wherein the first client and second client use the same time slot and same channel concurrently; and

wherein the algorithm is implemented by at least one of an associative neutral net, a root near square error program, and an artificial intelligence scheme.

70. (New)   The network apparatus of claim 69 wherein the management system is co-located with one of the group consisting of the first access point and the second access point.

71. (New):   The network apparatus of claim 69 wherein the management system comprises an enhanced Ethernet switch.

72. (New):   The network apparatus of claim 69 wherein the enhanced Ethernet switch comprises:

a high speed network Ethernet media access controller for interfacing with a network; and

a respective plurality of access point Ethernet media access controllers for sending and receiving data from the respective access points;

wherein the processor is a dedicated processor for implementing the algorithm and regulating data flow between the network and the respective access points.

73. (New):   The network apparatus of claim 72 wherein the enhanced Ethernet switch operates Reservation Protocol and subnet band width management, and is 801.1P and 801.1Q compliant.

74. (New):   An apparatus for network management comprising:

means for centrally controlling network access of a first access point having a respective first plurality of associated clients and a second access point having a respective second plurality of associated clients;

means for monitoring a plurality of network parameters that influence performance between the first plurality of clients, the second plurality of clients and the network;

means for determining a first client selected from the first plurality of associated clients and a second client from the second plurality of associated clients that use a channel concurrently;

means for scheduling a time slot with the first access point for the first client and with the second access point for the second client; and

means for monitoring packet angle-of-arrival information to determine a location of particular clients;

wherein one of the group consisting of the first access point and the second access point comprises means for managing space by controlling the direction of at least one adaptive antenna array to allow simultaneous access between interfering clients; and

wherein the first client and second client use the same time slot and same channel concurrently.

75. (New):   The apparatus of claim 74 wherein the means for managing space further comprises means for one of the group consisting of beam forming and null forming to compute an orthogonal antenna array pattern.

76. (New):   The apparatus of claim 74 wherein the means for monitoring network parameters comprises means for monitoring one of the group consisting of: time division, buffering, bandwidth, frequency, space and throughput.

77. (New):   The apparatus of claim 74, further comprising:

means for monitoring network packet collision history; and

means for adjusting client access to specific time slots responsive to the means for monitoring network packet collision history.

78. (New): The apparatus of claim 74 wherein the means for managing space comprises means for simultaneously managing time by selecting client time division multiple accesses on one of the group consisting of the first access point and second access point to allow simultaneous access between potentially interfering clients.

79. (New): The apparatus of claim 74, further comprising a means for performing a network calibration routine that comprises:

means for instructing a particular access point to transmit a signal in a desired direction;

means for detecting the signal using the respective other access points;

means for reporting to a main controller received signal strength and direction of arrival detected by the respective other access points;

means for repeating the network calibration routine for each of the respective other access points; and

means for using the main controller to determine a network access topology to reduce multipath interference between clients.

80. (New): An apparatus for network management comprising:

means for centrally controlling network access of a first access point having a respective first plurality of associated clients and a second access point having a respective second plurality of associated clients;

means for monitoring a plurality of network parameters that influence performance between the first plurality of clients, the second plurality of clients and the network;

means for determining a first client selected from the first plurality of associated clients and a second client from the second plurality of associated clients that use a channel concurrently;

means for scheduling a time slot with the first access point for the first client and with the second access point for the second client;

means for instructing a particular access point to transmit a signal in a desired direction;

means for detecting the signal using the respective other access points;

means for reporting to a main controller received signal strength and direction of arrival detected by the respective other access points;

means for repeating the network calibration routine for each of the respective other access points; and

means for using the main controller to determine a network access topology to reduce multipath interference between clients;

wherein the first client and second client use the same time slot and same channel concurrently.

81. (New):   The apparatus of claim 80 wherein the means for monitoring network parameters comprises means for monitoring one of the group consisting of :   time division, buffering, bandwidth, frequency, space and throughput.

82. (New):   The apparatus of claim 80, further comprising:

means for monitoring network packet collision history; and

means for adjusting client access to specific time slots responsive to the means for monitoring network packet collision history.

83. (New):   The apparatus of claim 80 further comprising means for managing time by selecting client time division multiple accesses on one of the group consisting of the first access point and second access point to allow simultaneous access between potentially interfering clients.

84. (New):   The apparatus of claim 80, further comprising means for monitoring packet angle-of-arrival information to determine a location of particular clients.

85. (New):   The apparatus of claim 80 further comprises one of a group consisting of means for beam forming to compute an orthogonal antenna array pattern and means for null forming to compute an orthogonal antenna array pattern.

86. (New): A computer readable medium having computer executable program code embodied therein for causing management of a network, the computer executable program code into a computer program product comprising:

instructions for centrally controlling network access of a first access point having a respective first plurality of associated clients and a second access point having a respective second plurality of associated clients;

instructions for monitoring a plurality of network parameters that influence performance between the first plurality of clients, the second plurality of clients and the network;

instructions for determining a first client selected from the first plurality of associated clients and a second client from the second plurality of associated clients that use a channel concurrently;

instructions for scheduling a time slot with the first access point for the first client and with the second access point for the second client;

instructions for monitoring network packet collision history;

instructions for adjusting client access to specific time slots; and

instructions for managing space by controlling the direction of at least one adaptive antenna array coupled to one of the group consisting of the first access point and the second access point to allow simultaneous access between potentially interfering clients;

wherein the first client and second client use the same time slot and same channel concurrently.

87. (New): The computer program product of claim 86 wherein the instructions for monitoring a plurality of network parameters comprises instructions for monitoring one of the group consisting of: time division, buffering, bandwidth, frequency, space and throughput.

88. (New): The computer program product of claim 87 wherein the instructions for maximizing throughput comprises instructions for using one of the group consisting of beam forming and null forming to compute an orthogonal antenna array pattern.

89. (New):   The computer program product of claim 86, further comprising instructions for simultaneously managing time and space by selecting client time division multiple accesses on each access point to allow simultaneous access between potentially interfering clients.

90. (New):   The computer program product of claim 86, further comprising instructions for monitoring packet angle-of-arrival information to determine location of particular clients.

91. (New):   The computer program product of claim 86 further comprising a network calibration routine comprising the following instructions:

instructions for instructing a particular access point to transmit a signal in a desired direction;

instructions for detecting the signal using the respective other access points;

instructions for reporting to a main controller received signal strength and direction of arrival detected by the respective other access points;

instructions for repeating the above instructions for each of the respective other access points;

instructions for using the main controller to determine a network access topology to reduce multipath interference between clients.

92. (New):   The computer program product of claim 91 further comprising instructions for performing the network calibration routine for each of the respective plurality of clients.

93. (New):   A computer readable medium having computer executable program code embodied therein for causing management of a network, the computer executable program code into a computer program product comprising:

instructions for centrally controlling network access of a first access point having a respective first plurality of associated clients and a second access point having a respective second plurality of associated clients;

instructions for monitoring a plurality of network parameters that influence performance between the first plurality of clients, the second plurality of clients and the network;

instructions for determining a first client selected from the first plurality of associated clients and a second client from the second plurality of associated clients that use a channel concurrently;

instructions for scheduling a time slot with the first access point for the first client and with the second access point for the second client;

instructions for monitoring packet angle-of-arrival information to determine location of particular clients; and

instructions for managing space by controlling the direction of at least one adaptive antenna array to allow simultaneous access between interfering clients;

wherein the first client and second client use the same time slot and same channel concurrently.

94. (New):   The computer program product of claim 93 further comprising instructions for using one of the group consisting of beam forming and null forming to compute an orthogonal antenna array pattern.

95. (New):   The computer program product of claim 93 wherein the instructions for monitoring network parameters comprises instructions for monitoring one of the group consisting of: time division, buffering, bandwidth, frequency, space and throughput.

96. (New):   The computer program product of claim 93, further comprising:

instructions for monitoring network packet collision history; and

instructions for adjusting client access to specific time slots.

97. (New):   The computer program product of claim 93, further comprising instructions for simultaneously managing time and space by selecting client time division multiple accesses on each access point to allow simultaneous access between potentially interfering clients.

98. (New): The computer program product of claim 93 further comprising a network calibration routine comprising the following instructions:

instructions for instructing a particular access point to transmit a signal in a desired direction;

instructions for detecting the signal using the respective other access points;

instructions for reporting to a main controller received signal strength and direction of arrival detected by the respective other access points;

instructions for repeating the above instructions for each of the respective other access points;

instructions for using the main controller to determine a network access topology to reduce multipath interference between clients.

99. (New): A computer readable medium having computer executable program code embodied therein for causing management of a network, the computer executable program code into a computer program product comprising:

instructions for centrally controlling network access of a first access point having a respective first plurality of associated clients and a second access point having a respective second plurality of associated clients;

instructions for monitoring a plurality of network parameters that influence performance between the first plurality of clients, the second plurality of clients and the network;

instructions for determining a first client selected from the first plurality of associated clients and a second client from the second plurality of associated clients that use a channel concurrently;

instructions for scheduling a time slot with the first access point for the first client and with the second access point for the second client; and

a network calibration routine comprising the following instructions:

instructions for instructing a particular access point to transmit a signal in a desired direction,

instructions for detecting the signal using the respective other access points,

instructions for reporting to a main controller received signal strength and direction of arrival detected by the respective other access points,

instructions for repeating the above instructions for each of the respective other access points, and

instructions for using the main controller to determine a network access topology to reduce multipath interference between clients;

wherein the first client and second client use the same time slot and same channel concurrently.

100. (New): The computer program product of claim 99 further comprising instructions for performing the network calibration routine for each of the respective plurality of clients.